CLAIMS

1. A method for selecting an operation mode in an electronic device comprising one or more subunits for which, in terms of power consumption, at least two operation modes are determinable, one of the modes being an active mode and one being a sleep mode, in which sleep mode power consumption is smaller than that in the active mode, the method comprising:

determining a movement of the device by measuring one or more movement components;

keeping the operation mode of one or more subunits of the device as the active mode as long as the movement of the device is unknown;

changing the operation mode of at least one subunit of the device from the active mode to the sleep mode when the movement is identified;

keeping the operation mode of one or more subunits of the device as the sleep mode as long as the movement of the device is known; and

changing the operation mode of at least one subunit of the device from the sleep mode to the active mode when the movement changes to unknown.

2. The method of claim 1, wherein the movement is known when the device is motionless.

3. The method of claim 2, wherein when the value of the movement component is below a predetermined threshold value, the method further comprises:

starting time measurement, and

changing the operation mode of at least one subunit of the device from the active mode to the sleep mode if the time measurement exceeds a predetermined threshold value set for the time measurement, the movement of the device then being considered motionless.

4. The method of claim 1, wherein the movement is unknown when the device moves.

5. The method of claim 4, wherein a beginning of the movement of the device is detected by comparing the value of the movement component with the predetermined threshold value.

6. The method of claim 1, wherein the movement is known when the movement of the device corresponds with a predetermined movement type.

7. The method of claim 6, wherein when the movement corresponds with the predetermined movement type, for measurements to be carried out in the sleep mode the method comprises:

setting a threshold interval for the value of one or more movement components, within which threshold interval the value is to remain,

setting a time window for the movement type, during which time window the movement type is to recur,

whereby the movement of the device is considered known when the value of one or more movement components resides within the threshold interval and the movement type recurs within the set time window.

8. The method of claim 6, wherein when the movement of the device is known,

the value of one or more movement components recurrently exceeds the preset threshold value within the predetermined time window.

9. The method of claim 8, wherein when the value of the movement component exceeds the predetermined threshold value, the method comprises:

setting a guard period within the time window, exceedings of the threshold value occurring within the guard period being filtered off.

10. The method of claim 6, wherein in the sleep mode, when the movement of the device corresponds with the predetermined movement type, the method comprises:

calculating the number of recurrence of the movement type,

using the calculated number for calculating a derived quantity.

11. The method of claim 6, wherein after the movement type has been identified, one or more movement components most appropriately characterizing the movement type is/are selected from among one or more movement components to be measured, the movement being monitored with respect to such a movement component or such movement components in the sleep mode.

12. The method of claim 1, wherein the movement is unknown when the movement of the device does not correspond with the predetermined movement type.

13. The method of claim 1, wherein one or more movement components to be measured in the measurement of the movement of the device belong to one of the following groups: one or more linear acceleration compo-

nents, one or more angular acceleration components, one or more magnetic field components, one or more angular velocity components.

14. The method of claim 1, wherein one or more movement components are measured by one or more movement sensors, the same movement sensors being used both in the active mode and in the sleep mode.

15. The method of claim 1, wherein when the operation mode of the device changes from the active mode to the sleep mode, functions necessary for identifying a movement in the device are turned off.

16. The method of claim 1, wherein when the operation mode of the device changes from the sleep mode to the active mode, functions necessary for identifying a movement in the device are turned on.

17. An electronic device comprising:

means for controlling operation modes;

one or more subunits for which, in terms of power consumption, at least two operation modes are determinable, one of the modes being an active mode and one being a sleep mode, in which sleep mode power consumption is smaller than that in the active mode, wherein the device comprises:

means for measuring a movement of the device by measuring one or more movement components, the means for controlling the operation modes being configured to:

keep the operation mode of one or more subunits of the device as the active mode as long as the movement of the device is unknown;

change the operation mode of at least one subunit of the device from the active mode to the sleep mode when the movement is identified;

keep the operation mode of one or more subunits of the device as the sleep mode as long as the movement of the device is known;

change the operation mode of at least one subunit of the device from the sleep mode to the active mode when the movement changes to unknown.

18. The device of claim 17, wherein the movement is known when the device is motionless.

19. The device of claim 17, wherein the movement is unknown when the device moves.

20. The device of claim 18 or 19, wherein the device is configured to detect that a movement stops and/or starts by comparing the value of the movement component with a preset threshold value.

21. The device of claim 17, wherein the movement is known when the movement of the device corresponds with a predetermined movement type.

22. The device of claim 21, wherein the device comprises:

means for setting a threshold interval for the value of one or more movement components, within which threshold interval the value is to remain,

means for setting a time window for the movement type, during which time window the movement type is to recur,

means for comparing, in the sleep mode, one or more values of the movement component with the threshold interval and the recurrence of the movement type with the length of the time window, the control means being configured to treat the movement of the device as known when the value of one or more movement components resides within the threshold interval and the movement type recurs within the set time window.

23. The device of claim 21, wherein the device comprises:

means for calculating the number of recurrence of the movement type in the sleep mode when the movement of the device corresponds with the predetermined movement type, and

means for calculating the value of a derived quantity on the basis of recurrent movement types.

24. The device of claim 17, wherein the movement is unknown when the movement of the device does not correspond with the predetermined movement type.

25. The device of claim 17, wherein one or more measurement means of the movement belong to one of the following groups: one or more linear acceleration sensors, one or more angular acceleration sensors, one or more magnetometric sensors, one or more gyroscopic sensors.

26. The device of claim 17, wherein the means for measuring the movement consist of one or more acceleration sensors and the device is configured to use the same acceleration sensors both in the active mode and the sleep mode.

27. The device of claim 17, wherein the control means are configured to consider the movement of the device known when

the value of one or more movement components exceeds a preset threshold value within the predetermined time window.

28. The device of claim 27, wherein when the value of the movement component exceeds the predetermined threshold value, the control means are configured to set a guard period within the time window and to filter off exceedings of the threshold value occurring within the guard period.

29. The device of claim 17, wherein the control means are configured to select one or more movement components most appropriately characterizing the movement type from among one or more movement components to be measured, the movement being examined with respect to such a movement component or such movement components in the sleep mode.

30. The device of claim 17, wherein the control means are configured to turn off one or more subunits in the device necessary for identifying a movement when the operation mode of the device changes from the active mode to the sleep mode.

31. The device of claim 17, wherein the control means are configured to turn on one or more subunits necessary for identifying a movement when the operation mode of the device changes from the sleep mode to the active mode.

32. The device of claim 17, wherein the device comprises:

means for measuring time if the movement measurement in the active mode indicates that the movement of the device is known, the control means being configured to

change the operation mode of at least one subunit of the device from the active mode to the sleep mode if the time measurement exceeds a threshold value preset for the time measurement.

33. The device of claim 17, wherein one subunit of the device, a first subunit, is an acceleration measurement system for measuring the movement of the device, the acceleration measurement system comprising a movement identification part active in the sleep mode and an acceleration measurement part active in the active mode.

34. The device of claim 33, wherein one subsystem of the device, a second subunit, is a main system of the device.

35. The device of claim 34, wherein the acceleration measurement system is configured to transfer, in the sleep mode, measurement results of the movement to the main system, and the control means located in the main system are configured to control the transfer of the main system and/or the acceleration measurement system from the sleep mode to the active mode.

36. The device of claim 34, wherein the control means belonging to the main system are configured to control changes in the operation mode of the main system and/or the acceleration measurement system.

37. The device of claim 34, wherein the control means belonging to the acceleration measurement system are configured to control changes in the operation mode of the main system and/or the acceleration measurement system.

38. The device of claim 34, wherein the device comprises means for estimating the movement, the estimation means being located in the acceleration measurement system.

39. The device of claim 34, wherein the device comprises means for estimating the movement, the estimation means being located in the main system.

40. The device of claim 17, wherein the device is a mobile phone or auxiliary equipment thereof either fixedly or wirelessly connected to the mobile phone.